

A REVIEW OF THE ASIAN SPECIES OF THE  
GENUS *LAMPROSCATELLA* HENDEL  
(DIPTERA: EPHYDRIDAE)

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*Abstract.*—The Asian species of the genus *Lamproscatella* Hendel, all in the subgenus *Lamproscatella*, are reviewed, including three new species as follows: *L. sinica* (China: Sichuan and Gansu); *L. clava* (Mongolia: Bajan-Olgij aimak); *L. tibetensis* (China: Tibet). A key to these species, illustrations of structures of the male genitalia, and descriptions are provided.

While studying specimens of the subfamily Ephydrinae that were recently made available to us from Asia, we segregated three species of the genus *Lamproscatella* Hendel. Previously only two species of that genus had been reported from this area, viz., *L. coenicola* Miyagi (1977:89, Japan) and *L. sibilans* (Haliday) (Cogan 1984:172, northeastern Tibet). After comparative studies, particularly of structures of the male genitalia, we have determined that none of our newly segregated species had been described previously. The purpose of this paper is to describe and document these discoveries within the context of a review.

With description of the new species, the number of species reported from this area is five. We did not reconfirm the presence of *L. sibilans*, however, as none of the specimens we examined is a representative of that species.

We adhere generally to the methods and descriptive terminology that were used previously for this subfamily (Mathis 1979, 1982). For the convenience of the user, a more precise definition of the M vein ratio is: straight line distance along vein M between crossveins (dm-cu and rm)/distance apicad of dm-cu. Definitions of the other ratios used in the text are as published in the above-cited references.

Specimens for this study came from the collections of the Entomological Institute,

Hokkaido University (HUS), Sapporo, Japan; Hungarian Natural History Museum (HNHM), Budapest, Hungary; the Northwestern Teachers College (NTC), Lanzhou, Gansu Province, China; and the Shanghai Entomological Institute (SEI), Academia Sinica, Shanghai, China, and the National Museum of Natural History (USNM), Washington, D.C.

Genus *Lamproscatella* Hendel

*Lamproscatella* Hendel, 1917:42. Type species: *Ephydra sibilans* Haliday, orig. des.—Cogan, 1984:172–173 [Palearctic catalog].

*Diagnosis.*—*Lamproscatella* is similar to several genera of the tribe Scatellini (subfamily Ephydrinae) but may be distinguished by the following combination of characters:

*Head.*—Laterocline fronto-orbital setae 2; arista bare or minutely haired, lacking long, dorsal rays; a major genal seta lacking.

*Thorax.*—Acrostichal setulae in 2 rows, either none well developed or only a pre-scutellar pair conspicuously evident; dorsocentral setae 3 (1 + 2), insertion of posteriormost pair slightly displaced laterally; wings usually hyaline to faintly infumate, lacking white spots or a pattern; costal vein extended to vein M.

*Discussion.*—Within the tribe Scatellini,

*Lamproscatella* is very similar and probably closely related to the genus *Amalopteryx* Eaton. Both genera are unique within the tribe in lacking a genal seta, although the loss of this seta could have happened independently and is not conclusive evidence for a close relationship. A more definitive study is needed, especially of structures of the male genitalia, to determine if there is a sister-group relationship between these genera.

*Lamproscatella* presently includes three subgenera (*Haloscatella* Mathis, *Thinoscatella* Mathis, and the nominate subgenus), but only the nominate subgenus is known to be represented in Asia.

Subgenus *Lamproscatella* Hendel

See generic synonymy.

*Diagnosis.*—This subgenus is distinguished from *Haloscatella* and *Thinoscatella* by the following combination of characters: general coloration brown.

*Head.*—Mesofrons with dense to sparse microtomentum, at most subshining; posterior fronto-orbital seta inserted closer to anterior fronto-orbital seta than to inner vertical seta; eye nearly round; eye-to-cheek ratio 0.25 or less.

*Thorax.*—Posterior notopleural seta inserted closer to posterior angle than to dorsal angle and at approximately the same level as anterior seta; length of basal scutellar setae  $\frac{1}{2}$  or less that of apical setae; wing macropterous.

*Abdomen.*—Structures of the male genitalia as follows: surstylus either lacking or fused indistinguishably to ventral margin of epandrium; cercal cavity generally small, usually not longer than combined length of epandrium plus surstylus; aedeagal apodeme generally slender, curved, C- to J-shaped; gonite in lateral view projected ventrally, shape variable but usually broadly V-shaped in anterior view. Female ventral receptacle as follows: operculum flat, extended process much wider near oper-

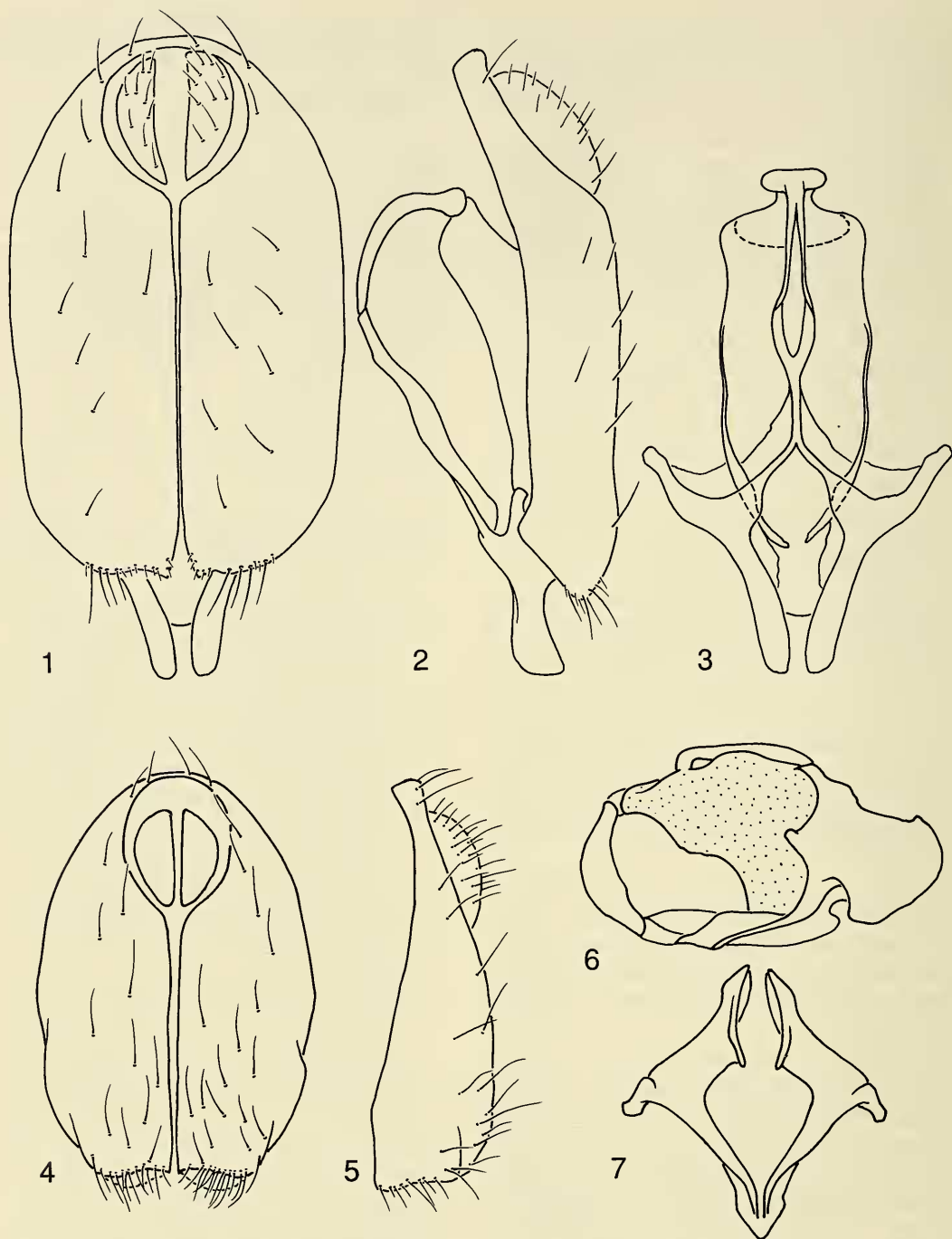
culum, becoming considerably narrower and more abruptly curved away from operculum.

*Distribution.*—Subgenus *Lamproscatella* is the most widespread of the genus, occurring in all faunal realms except the neotropics and Australia.

*Discussion.*—Because the external features of species of this subgenus are very similar, we have provided an extensive description only for *L. sinica*; for the other descriptions, we have only given additions or differences from it. For the most part, we have relied on characters of the male genitalia to distinguish between species, especially in the key to follow.

Key to Asian Species of *Lamproscatella*  
Hendel

- 1. Aedeagus slender, length  $4 \times$  width, tapered gradually to a point (Figs. 12, 15); ventral extension of gonite pointed in lateral view (Figs. 12, 15) 2
- Aedeagus broad and/or short, length at most slightly more than  $2 \times$  width (Figs. 2, 6, 9); ventral extension of gonite broadly rounded or truncate in lateral view (Figs. 2, 6, 9) . . . . . 3
- 2. Ventral margin of epandrium bearing long setae, length subequal to width of epandrium at apex (Fig. 14); cercal cavity subequal to  $\frac{1}{2}$  total length of epandrium (Fig. 14); 5th sternum broadly U-shaped (Fig. 16); gonite with feather-like fringe (Fig. 15); median part of aedeagal apodeme with lateral triangular flanges (Fig. 16) . . . . *L. tibetensis*, new species
- Ventral margin of epandrium bearing short setae, each much shorter than width of epandrium at apex (Fig. 11); cercal cavity slightly more than  $\frac{1}{3}$  total length of epandrium (Fig. 11); 5th sternum subrectangular, with short anteroventral processes (Fig. 13); 5th sternum subrectangular, with short anteroventral



Figs. 1-3. Male genitalia of *Lamproscatella clava*. 1, Epandrium and cerci, posterior view. 2, Genitalia, lateral view. 3, Gonites and aedeagus, anterior view.

Figs. 4-7. Male genitalia of *Lamproscatella coenicola*. 4, Epandrium and cerci, posterior view. 5, Epandrium and cercus, lateral view. 6, Internal genitalia, lateral view. 7, Gonites, anterior view.



- processes (Fig. 13); gonite lacking feather-like fringe (Fig. 12); median part of aedeagal apodeme with a slightly rounded lateral extension (Fig. 13) ..... *L. sinica*, new species
3. Gonite long, moderately narrow, and subtruncate apically, width about ½ length (Figs. 2–3) .....  
..... *L. clava*, new species
- Gonite short, wide, and broadly rounded apically, width about equal to length (Figs. 6, 9) ..... 4
4. Aedeagus broadly elliptical in anterior or posterior views, strongly constricted medially, apex acutely pointed (Fig. 10) .. *L. sibilans* (Haliday)
- Aedeagus moderately narrow in anterior or posterior views, lateral margins sinuate, but not strongly constricted medially (Fig. 6) .....  
..... *L. coenicola* Miyagi

*Lamproscatella (Lamproscatella) clava*,  
new species  
Figs. 1–3

*Description*.—As in *L. sinica* except as follows: small shore flies, length 1.65 to 1.90 mm.

*Head*.—Head ratio 0.51; eye ratio 1.09; eye-to-cheek ratio 0.23.

*Thorax*.—Costal vein ratio 0.13; M vein ratio 1.70.

*Abdomen*.—Fifth tergum of male subtrapezoidal in dorsal view, posterior margin truncate or very shallowly rounded. Male genitalia (Figs. 1–3) as follows: epandrium parallel sided, dorsal margin rounded, ventral edge sinuate and terminated medially as 2 broadly based points, median epandrial fissure weak but continued to cercal cavity; aedeagal apodeme slender, allantoid, enlarged dorsally; aedeagus moderately wide in posterior view, narrower apically, terminated as a spatulate process with a rough margin; gonites broadly V-shaped, each arm slightly recurved distally and produced ventrally into a long extension, which, in lateral

view, is a wide, apically enlarged flange that is somewhat pointed posteriorly.

*Type material*.—The holotype male (HNHM) is labeled “Mongolia: Bajan-Olgij aimak, am Fluss Chovd gol bei der Stadt Olgij, 1750 m Exp. Dr. Z. KASZAB, 1968/ Nr. 1046 30. VI. 1968 [30 Jun 1968].” The allotype female and two paratypes (1 ♂, 1 ♀; HNHM) bear the same label data as the holotype. The holotype is double mounted (minute nadel in foam block) and is in good condition (the abdomen has been removed and dissected; the structures are in an attached microvial).

*Distribution*.—Palearctic. Mongolia: Bajan-Olgij.

*Etymology*.—The species epithet, *clava*, is a Latin noun referring to the club-shaped gonite of the male genitalia.

*Remarks*.—This species may be distinguished from its congeners in the subgenus *Lamproscatella* principally by structures of the male genitalia, especially the club-like gonite and moderately wide aedeagus (see figures and description above).

*Lamproscatella (Lamproscatella)*  
*coenicola* Miyagi  
Figs. 4–7

*Lamproscatella coenicola* Miyagi, 1977:89.  
*Lamproscatella (Lamproscatella) coenicola*.—Cogan, 1984:172 [Palearctic catalog].

*Description*.—As in *L. sinica* except as follows: small to moderately small shore flies, length 1.85 to 2.15 mm.

*Head*.—Head ratio 0.67; eye ratio 0.86; eye-to-cheek ratio 0.22. Face unicolorous, brownish gray.

*Thorax*.—Costal vein ratio 0.16; M vein ratio 0.76.

*Abdomen*.—Fifth tergum of male subtriangular, posterior margin acutely rounded. Male genitalia (Figs. 4–7) as follows: epandrium more or less parallel sided, subrectangular to elliptical, dorsal margin rounded, ventral margin truncated poste-

riorly, becoming rounded anteriorly, median epandrial fissure conspicuous and continued to cercal cavity; aedeagal apodeme lunate, swollen in middle, comparatively robust, symmetrical; aedeagus relatively narrow in anterior view, lateral margins sinuate; both gonites together in anterior view roughly diamond shaped, each arm projected posterolaterally and distinctly angled posteromedially, apex, in lateral view, very broadly produced, as high as wide, rounded apically.

*Type material.*—The holotype male (HUS) is labeled “Utonai-ko Iburi 5-0VII-1961 [5 Jul 1961]/Japonia Hokkaido I. Miyagii.” The holotype and two male paratypes (HUS) (listed as a male and a “female” in the original publication) are double mounted (minute nadel in a cardboard rectangle) and are in good condition (the abdomens of the male paratypes have been removed and dissected; for one specimen, the structures had been slide mounted, for the other, these structures are in an attached microvial).

*Distribution.*—Palearctic. Japan: Hokkaido (Utonai-ko Iburi).

*Remarks.*—Miyagi (1977) noted the similarity between this species and *L. sibilans* but stated that the former could be distinguished by having four large scutellar setae. We have not been able to separate the two species by this character. In the specimens we examined, the scutellar setae are nearly the same size, with only minor variation in length. Thus, for the present, we have had to use characters from the male genitalia to distinguish between them.

?*Lamproscatella* (*Lamproscatella*)  
*sibilans* (Haliday)  
Figs. 8–10

*Ephydra sibilans* Haliday, 1833:175.

*Lamproscatella* (*Lamproscatella*) *sibilans*.—Andersson, 1975:166 [figures of male genitalia].—Cogan, 1984:172 [Palearctic catalog].

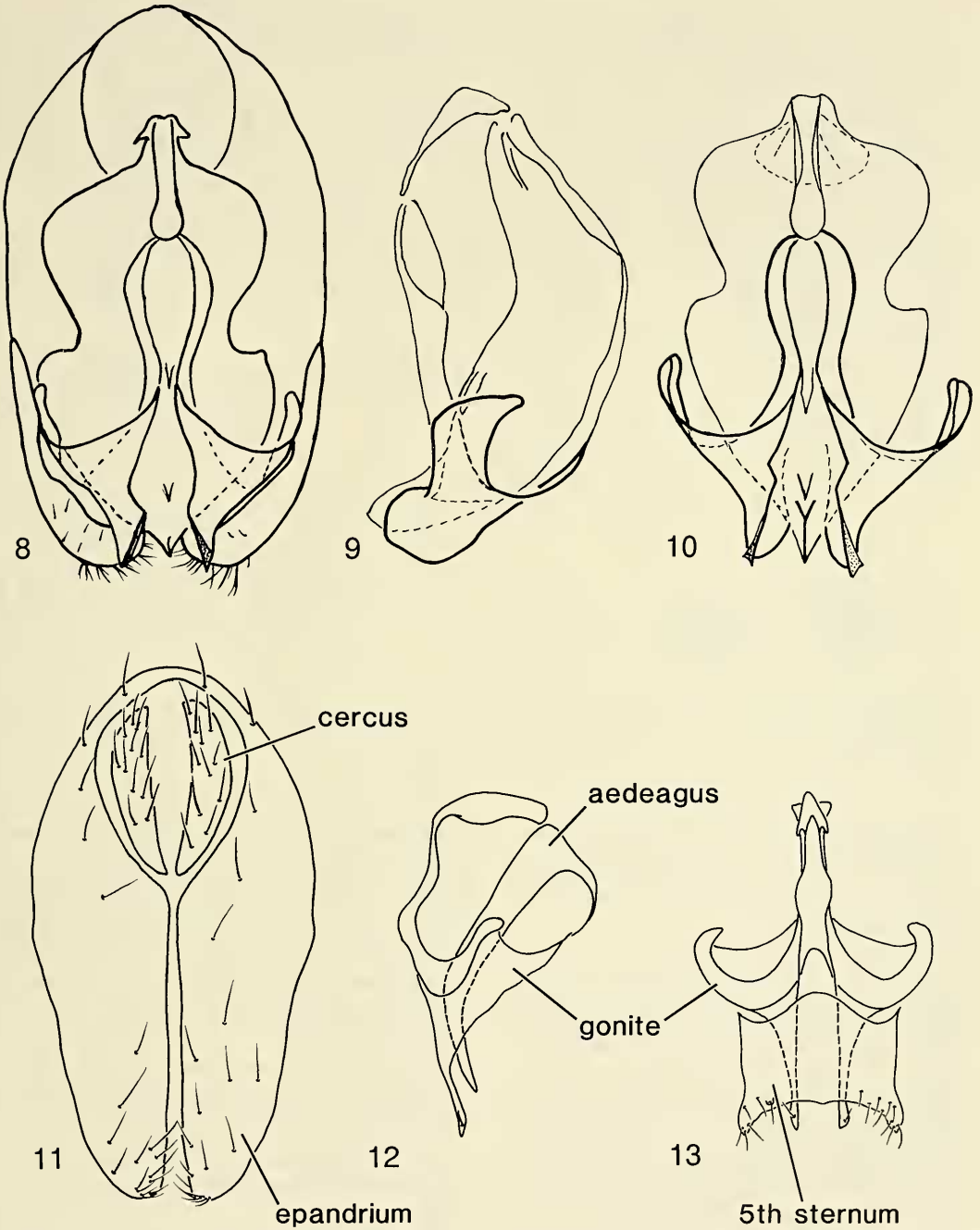
*Remarks.*—Cogan (1984:172) listed northeastern Tibet in the distribution for this species in his recent catalog of palearctic species. We have not examined the specimen(s) upon which this record is based but we have studied a teneral specimen recently collected from Tibet that represents a new species (see below). Because the species of the subgenus *Lamproscatella* are very similar externally, there is a possibility that the record of *L. sibilans* from Tibet is based on a misidentification and also represents the new species we have identified.

*Lamproscatella* (*Lamproscatella*) *sinica*,  
new species  
Figs. 11–13

*Description.*—Small to moderately small shore flies, length averaging 2.0 mm (1.70–2.40 mm); body mostly brown.

*Head.*—Head width-to-height ratio averaging 0.67; frontal triangle and fronto-orbits subshining, brown, contrasted with microtomentose, blackish remainder of frons; frontal triangle bearing several setulae along anterolateral margins; ocellar triangle concolorous with frontal triangle or a little more reddish; 2 large, laterocline, fronto-orbital setae and 2–3 setulae in front of and between these; 1 pair of strong ocellar setae, these longer than distance between anterior ocellus and ptilinal suture. Antenna black, microtomentose; arista micropubescent, length longer than combined length of 2nd segment and 1st flagellomere. Face brown to golden, with very sparse, light grayish microtomentum; face wider than high, not greatly protrudent; usually only 3 lateral facial setae; 5–7 parafacial/genal setae. Eye oval; eye ratio averaging 0.81. Genal coloration lighter than face, brownish; eye-to-cheek ratio averaging 0.22. Palpus blackish.

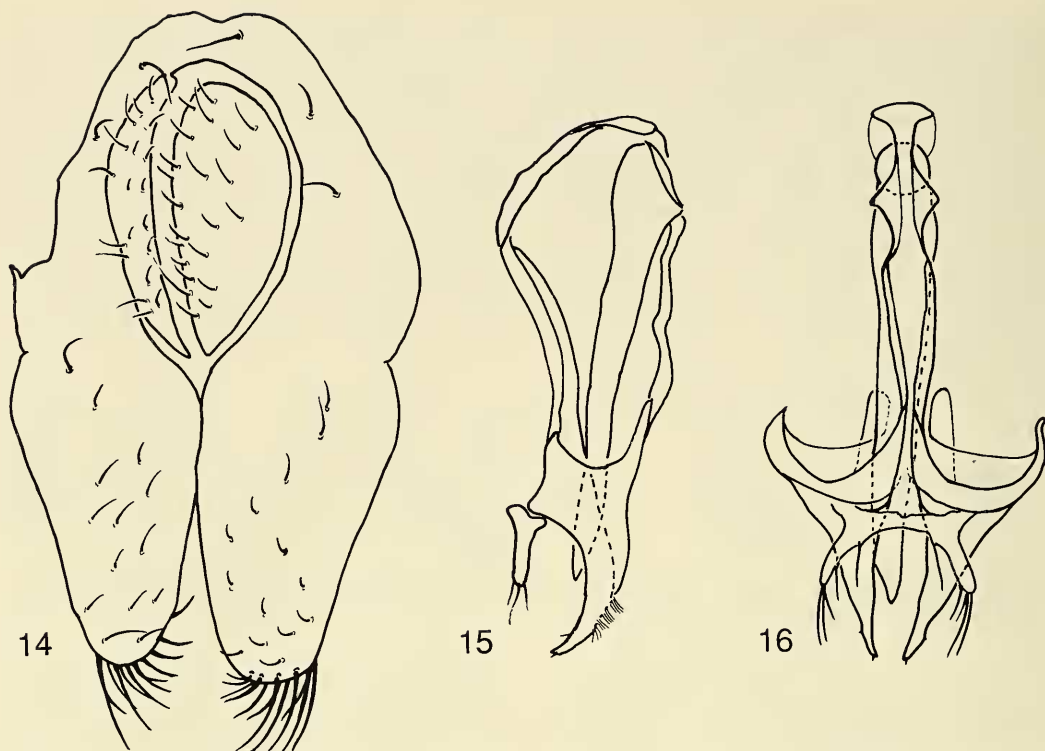
*Thorax.*—Mesonotum mostly brown but with some bluish coloration anteriorly; scutellum concolorous with scutum; pleural area brown, becoming bluish gray along anterior part of anepisternum and ventral part



Figs. 8–10. Male genitalia of *Lamproscatella sibilans*. 8, Male genitalia, anterior view. 9, Genitalia, lateral view. 10, Gonites and aedeagus, anterior view.

Figs. 11–13. Male genitalia of *Lamproscatella sinica*. 11, Epandrium and cerci, posterior view. 12, Internal genitalia, lateral view. 13, 5th sternum and gonites, anterior view.





Figs. 14–16. Male genitalia of *Lamproscatella tibetensis*. 14, Epandrium and cerci, posterior view. 15, Internal genitalia, lateral view. 16, Gonites and aedeagus, anterior view.

of katepisternum. Legs black; femora with some metallic green luster. Wing hyaline; costal vein ratio averaging 0.147; M vein ratio averaging 0.67.

**Abdomen.**—Dorsum concolorous with mesonotum, becoming darker ventrally. Structures of male genitalia (Figs. 11–13) as follows: ventral margin of each side of epandrium acutely rounded, bearing a few small setulae; median epandrial fissure very evident, extended to cercal cavity; 5th sternum generally subrectangular, lateroventral corners produced into processes, median dorsal margin broadly produced into large rounded extension; aedeagal apodeme short, sublinear, with small anterolateral flange; gonite from anterior view shaped like 2 J's that are fused along longer arms but with long, acutely pointed extension medioven-

trally; aedeagus very slender, broader basally, tapered to acutely pointed apex.

**Type material.**—The holotype male (USNM) is labeled “Beh Luh Din 30 mi N Chengtu iv 1–15 1935 [1–15 Apr 1935, date handwritten] China D C Graham.” The allotype female and five paratypes (1 ♂, 4 ♀; USNM) bear the same locality label data as the holotype. Five additional paratypes are as follows: China: Gansu; Wudu (grass near wheat field), 9 Apr 1979, Jin Zuyin (1 ♂, 4 ♀; NTC). The holotype is double mounted (glued to a paper point) and is in poor condition.

**Distribution.**—Presently known only from two sites in China as follows: Chengtu (the type locality), in the province of Sichuan, and Wudu, in the province of Gansu.

**Etymology.**—The species epithet, *sinica*,

is a Latinized adjective for China, the country from which all known specimens of this species were collected.

*Remarks.*—This species is very similar, especially externally, to *L. sibilans*, and can be distinguished from it and other congeners of the subgenus *Lamproscatella* only by reference to the shape of the male genitalia, which are figured (Figs. 12–14) and described above. The shape of the aedeagus and gonite is of particular importance.

*Lamproscatella (Lamproscatella) tibetensis*,  
new species  
Figs. 14–16

*Description.*—As in *L. sinica* except as follows: small shore fly, length about 2.0 mm (estimate, abdomen removed for dissection before measurement made).

*Head.*—Head ratio 0.64; eye ratio 1.14; eye-to-cheek ratio 0.23.

*Thorax.*—Costal vein ratio 0.64; M vein ratio 1.38.

*Abdomen.*—Fifth tergum of male subtrapezoidal in dorsal view. Male genitalia (Figs. 14–16) as follows: epandrium subovate, ventral margin of each side slightly curved, bearing several moderately long setae that are nearly as long as width of apex of epandrium; cercal cavity large, subequal to one-half length of combined epandrium and fused surstyli; 5th sternum band-like, lateroventral corners produced into longer processes, apex of process bearing 3 setae, 2 on ventral margin; aedeagal apodeme short, median part with lateral triangular flanges; gonite similar to *L. sinica*, but with feather-like fringe on the subapex of medioventral pointer extension; aedeagus very slender, broader basally, tapered to pointed apex.

*Type material.*—The holotype male (SEI) is labeled “Tibet: Lhasa, 12085 feet, 5–6 June 1980[,] Mary L. Ripley.” The holotype is double mounted and is in poor condition (somewhat teneral; abdomen removed for

dissection, the structures are stored in an attached microvial).

*Distribution.*—Palearctic. China: Tibet (Lhasa).

*Etymology.*—The species epithet, *tibetensis*, refers to the geographic region where this species was collected.

*Remarks.*—This species is represented only by the holotype, which is in rather poor condition. We are describing the species now, however, because the male genitalia are well sclerotized, and species discrimination in this subgenus is primarily based on these structures. Furthermore, it is unlikely that we or another dipterist will be able to collect additional specimens in the near future, and we would like to make this review as complete as possible.

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